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Dnepropetrovsk Iron and Steel Plant Petrovskiy, USSR

An Imagery Research Paper

Sanitized Copy Approved for Release 2010/03/29 : CIA-RDP78B07179A000100490001-5

CENTRAL INTELLIGENCE AGENCY
National Foreign Assessment Center
Office of Imagery Analysis

INSTALLATION OR ACTIVITY NAME					COUNTRY
Dnepropetrovsk Iron and Steel Plant Petrovskiy					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NUMBER	COMIREX NO.	NIETB NO.
NA	48-28-58N 034-58-52E				

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MAP REFERENCE

USATC, Series 200, Sheet 0234-21 HL, 4th ed, Jan 68, Scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
	NA

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ABSTRACT

The Dnepropetrovsk Iron and Steel Plant Petrovskiy is one of the Soviet Union's oldest iron and steel plants and is relatively small when compared with other Soviet plants. Products include rails, girders, plate, wire, blooms, sheets, and sections. The plant probably provides semifinished steel for several nearby fabrication plants.

Entrances to three basement civil defense shelters were observed on photography of the plant. At least one detached civil defense shelter was also seen at the plant. Three detached shelters, one probable basement shelter, an entrance to a basement shelter, and vents for a basement shelter were observed at nearby associated plants.

The information and judgments presented in this publication were derived principally from analysis of imagery. Although information from other sources has been included, this publication does not reflect an all-source assessment and has not been formally coordinated within CIA.

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INTRODUCTION

The Dnepropetrovsk Iron and Steel Plant Petrovskiy is located 1 kilometer south of the Dnepr River in the city of Dnepropetrovsk, Dnepropetrovsk Oblast (Figure 1). The plant is served by road and rail and is partially secured by walls. Steam and power are provided by the colocated Dnepropetrovsk Heat and Power Plant Petrovskiy TETS. The iron and steel plant occupies an area of about 55 hectares. Nearby associated industries include a steel fabrication plant, a pipe rolling mill, a metallurgical equipment plant, and a coke byproducts plant.

DISCUSSION

The Dnepropetrovsk Iron and Steel Plant Petrovskiy is one of the oldest iron and steel plants in the USSR; it began producing pig iron in 1887, and in 1889 four open-hearth furnaces were put into operation. The plant was extensively damaged during World War II but was subsequently reconstructed. 1/ There are no recent production figures available for the plant.

The plant is small when compared with major Soviet iron and steel plants. In May 1978, facilities included four blast furnaces (the most critical component of iron and steel plants), a small open-hearth furnace building, a small basic oxygen furnace building, and a rolling mill (Figure 2). Other facilities included a lime plant, a probable foundry, and three pig iron casting buildings. Coke is provided by the Dnepropetrovsk Coke, Chemical, and Fertilizer Plant which is located 850 meters southwest of the iron and steel plant. A small air separation plant located 500 meters west provides oxygen for the basic oxygen furnaces. The function of several buildings at the iron and steel plant could not be determined.

Products of the iron and steel plant include rails, girders, plate, wire, blooms, sheets, and sections. 2,3/ The plant probably provides steel for several nearby industrial plants.

Minor additions to the rolling mill and an addition to an unidentified building have been constructed since 1972. Some sections of the rolling mill have been dismantled since 1972. A hot stove for one of the blast furnaces was removed and a new one installed in its place during 1977. An unidentified building was under construction at the plant in May 1978. A water treatment plant under construction in May 1978 northeast of the iron and steel plant will recover usable ore fines from water used to cool the blast furnaces and steelmaking furnaces.

Most of the components of the iron and steel plant were operating when observed on photography from 1972 to 1978. One blast furnace appeared to be shut down during most of 1977 while a hot stove was being replaced. Table 1 provides a listing of the major components of the plant.

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Civil Defense Measures

At least one detached shelter and entrances to three basement civil defense shelters have been identified at the iron and steel plant. All of these shelters were built prior to 1972 and are probably very old. Their size could not be determined from photography. An entrance to a basement shelter and a detached shelter were identified at the steel fabrication plant immediately north of the iron and steel plant; the detached shelter appeared to be in disrepair. Vents for a basement shelter were observed next to an administration building at the steel fabrication plant. Two detached shelters were identified near the coke plant. A probable basement shelter was observed under construction near the coke plant in October 1977. In May 1978, an unidentified building was under construction over this probable shelter. Table 1 lists the shelters (Items 17-26) by type, size, association with plant facilities, location by geographic coordinates, and approximate construction date. The shelters are indicated on Figure 2.

There is no photographic evidence indicating efforts to protect or harden production facilities within the plant. Hardening measures taken inside buildings for the protection of equipment obviously would not be observable on overhead photography.

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Table 1. Major Facilities and Civil Defense Shelters at Dnepropetrovsk Iron and Steel Plant Petrovskiy (Keyed to Figure 2)

Item	Facility	Roof Cover (Sq. M.)	Remarks
	Raw Materials Processing		
1	Lime plant		Probably contains six small vertical kilns. Processes limestone for use in blast furnaces and steel-making furnaces.
	Iron Production		
2	Blast furnaces		Four blast furnaces in a row 380 meters long centered on coordinates 48-28-37N 034-58-29E.
3	Pig iron casting building		Has two casting strands.
4	Pig iron casting building		Has two casting strands.
5	Pig iron casting building		Has two casting strands.
6	Probable foundry	3,390	
	Steel Production		
7	Open-hearth furnace building	6,720	Contains at least two furnaces.
8	Basic oxygen furnace building	6,760	Probably contains three small furnaces.
	Rolled Steel Production		
9	Rolling mill	83,845	
	Miscellaneous		
10	Air separation plant	8,130	
11	Water treatment plant		Recovers usable material from water used to cool blast furnaces and steel-making furnaces.
12	Unidentified building	3,390	
13	Unidentified building	6,060	
14	Unidentified building	2,400	
15	Unidentified building under construction	864	
	Power		
16	Thermal power plant	9,210	30 megawatts 4/

Civil Defense Shelters

Item	Type	Association	Floor Space (Sq. M.)	Geographic Coordinates	Dates First Seen: Under Construction	Dates First Seen: Completed
17	Basement	Rolling mill	Undetermined	48-28-36N 034-59-11E		Before Feb 72
18	Basement	Administration building	Undetermined	48-28-47N 034-58-27E		Before Feb 72
19	Basement	Administration building	Undetermined	48-28-47N 034-58-26E		Before Feb 72
20	Detached	Raw material storage yard	Undetermined	48-28-36N 034-58-18E		Before Feb 72
21	Basement	Steel fabrication plant	Undetermined	48-28-51N 034-58-57E		Before Feb 72
22	Detached	Steel fabrication plant	144	48-28-54N 034-58-51E		Before Feb 72
23	Basement	Steel fabrication plant	810	48-28-45N 034-58-43E	Mar 73	Apr 73
24	Detached	Coke production area	864	48-28-15N 034-58-06E	Jun 74	Sep 75
25	Probable basement shelter	Coke production area	1,584	48-28-18N 034-58-11E	Oct 76	May 78
26	Detached	Coke production area	360	48-28-00N 034-57-45E		Before Feb 72

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REFERENCES

Imagery

All pertinent photography since September 1971 was used in preparation of this report.

Documents

1. "The Petrovsk Works," Metallurgist, January 1958 (UNCLASSIFIED)

2. Cordero, Raymond, Iron and Steel Works of the World, Metal Bulletin Books Limited, 1974 (UNCLASSIFIED)

3. Likhoradov, A. P., "Dnepropetrovsk Metallurgical Plant imeni Petrovskiy Hailed on 80th Anniversary," Stal', No. 4, 1967 (UNCLASSIFIED)

4. CIA. Report ERRP 74-14, USSR: Distribution of Electrical Power Capacity 1970-75, May 1975 (CONFIDENTIAL)

Requirement

COMIREX NO3
Support Number 480817 EN

The author of this paper is [redacted] Economic Resources Division, Office of Imagery Analysis. Comments and queries are welcome and should be directed to [redacted]

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